



**CITY OF MARTINEZ**

**CITY COUNCIL AGENDA  
September 21, 2011**

**TO:** Mayor and City Council  
**FROM:** Eric Ghisletta, Captain  
**SUBJECT:** Contra Costa County Hazard Mitigation Plan  
**DATE:** September 7, 2011

**RECOMMENDATION:**

It is recommended that the City Council adopt the City of Martinez’s portion of the Contra Costa County Hazard Mitigation Plan.

**BACKGROUND:**

In August of 2008, a coalition of Contra Costa County planning partners embarked on a planning process to prepare for and lessen the impacts of specified natural hazards. Responding to federal mandates in the Disaster Mitigation Act of 2000 (Public Law 106-390), the partnership was formed to pool resources and create a uniform hazard mitigation strategy that can be consistently applied to the defined planning area and used to ensure eligibility for specified grant funding sources.

The 39 member planning partnership involved in this program includes the Contra Costa County 12 Cities, and 26 special services districts. The planning area for the hazard mitigation plan encompasses the Contra Costa County Operational Area. The result of the organizational efforts has been to produce a Federal Emergency Management Agency (FEMA) and the California Emergency Management Agency (CalEMA)-approved multi-agency multi-hazard mitigation plan.

Mitigation is defined in this context as any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation planning is the systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions and following through with an effective mitigation strategy. Mitigation encourages long-term reduction of hazard vulnerability and can reduce the enormous cost of disasters to property owners and all levels of government. Mitigation can also protect critical community facilities, reduce exposure to liability, and minimize post-disaster community disruption.

The hazard identification and profiling in the hazard mitigation plan addresses the following hazards considered to be of paramount importance within the Contra Costa County Operational Area:

1. Dam Failure
2. Drought
3. Earthquake
4. Flood
5. Landslide and Other Mass Movements
6. Severe Weather
7. Wildfire

Contra Costa County Department of Public Works and the Office of Emergency Services have shared the lead role in developing the hazard mitigation plan. All participating local jurisdictions have been responsible for assisting in the development of the hazard and vulnerability assessments and the mitigation action strategies for their respective jurisdictions and organizations. The plan presents the accumulated information in a unified framework to ensure a comprehensive and coordinated plan covering all planning partners within the Contra Costa County Operational Area. Each jurisdiction has been responsible for the review and approval of their individual sections of the plan.

The plan was prepared in accordance with the California Emergency Management Agency Local Hazard Mitigation Plan and Flood Mitigation Plan preparation guidelines. Additionally, the plan has been aligned with the goals, objectives and priorities of the State's multi-hazard mitigation plan and flood mitigation plan.

A 14 member Hazard Mitigation Steering Committee (HMSC) composed of representative stakeholders was formed early in the planning process to guide the development of the Plan. In addition, citizens were asked to contribute by sharing local knowledge of their individual area's vulnerability to natural hazards based on past occurrences. Public involvement has been solicited via a multi-media campaign that included public meetings, web-based information, questionnaires and progress updates via the news media.

Once the hazard mitigation plan is adopted by all of the jurisdictional partners and approved by FEMA, the partnership will collectively and individually become eligible to apply for hazard mitigation project funding from both the Pre-Disaster Mitigation Grant Program (PDM) and the Hazard Mitigation Grant Program (HMGP).

Upon adoption of Volume I and our jurisdictional Annex of Volume II of the Contra Costa County Hazard Mitigation Plan and subsequent approval of said plan by CalEMA and FEMA, the City of Martinez will be eligible to apply for specified grants. The grant funds are made available to states and local governments and can be used to implement the long-term hazard mitigation measures specified within the City's annex of the CCCHMP before and after a major disaster declaration. The CCDNCHMP is considered a living document such that, as awareness of additional hazards develops and new strategies and projects are conceived to offset or prevent losses due to natural disasters, the CCCHMP will be evaluated and revised on a continual 5 year time frame.

Included for your review is the City's portion of the County Hazard Mitigation Plan. The entire Plan, Volumes 1 and 2 are available for review in the City Clerk's Office.

**FISCAL IMPACT:**

There is no fiscal impact by adopting the City's portion of the Contra Costa County Hazard Mitigation Plan.

**ACTION:**

Motion adopting a resolution approving the City of Martinez' portion of the Contra Costa County Hazard Mitigation Plan.

Attachments:

Resolution

Fact Sheet

City's Portion of the CCCHMP

CCCHMP Volume 1 and 2 for review in the City Clerk's Office

**APPROVED BY:**



City Manager

**APPROVED BY:**



Chief of Police

**AUTHORIZING THE ADOPTION OF THE  
CONTRA COSTA COUNTY HAZARD MITIGATION PLAN**

**WHEREAS**, all of Contra Costa County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

**WHEREAS**; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

**WHEREAS**, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

**WHEREAS**; a coalition of Contra Costa County stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partner's identified capabilities, within the Contra Costa County Operational Area; and

**WHEREAS**, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impact of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy.

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of Martinez hereby authorizes the following:

- 1) Adopts in its entirety, Volume I and part 1, the Martinez jurisdictional annex of part 2, part 3 and the appendices of Volume II of the Contra Costa County Hazard Mitigation Plan (CCCHMP).
- 2) Will use the adopted and approved portions of the CCCHMP to guide pre and post disaster mitigation of the hazards identified.
- 3) Will coordinate the strategies identified in the CCCHMP with other planning programs and mechanisms under its jurisdictional authority.
- 4) Will continue its support of the Steering Committee and continue to participate in the Planning Partnership as described by the CCCHMP.

- 5) Will help to promote and support the mitigation successes of all CCCHMP Planning Partners.

\* \* \* \* \*

**I HEREBY CERTIFY** that the foregoing is a true and correct copy of a resolution duly adopted by the City Council of the City of Martinez, at a Regular Meeting of said Council held on the 21<sup>st</sup> day of September, 2011, by the following vote:

AYES:

NOES:

ABSENT:

RICHARD G. HERNANDEZ, CITY CLERK  
CITY OF MARTINEZ

**Attachment 1**  
**Hazard Mitigation Grant Program (HMGP)**  
**Pre-Disaster Mitigation Grant Program (PDM)**

**FACT SHEET**

**I. HAZARD MITIGATION GRANT PROGRAM (HMGP)**

**What is the Hazard Mitigation Grant Program?**

Authorized under Section 404 of the Stafford Act, the Hazard Mitigation Grant Program (HMGP) administered by the Federal Emergency Management Agency (FEMA) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.

**Who is eligible to apply?**

Hazard Mitigation Grant Program funding is only available to applicants that reside within a Presidentially declared disaster area. Eligible applicants are

- State and local governments
- Indian tribes or other tribal organizations
- Certain non-profit organizations

**What types of projects can be funded by the HMGP?**

HMGP funds may be used to fund projects that will reduce or eliminate the losses from future disasters. Projects must provide a long-term solution to a problem, for example, elevation of a home to reduce the risk of flood damages as opposed to buying sandbags and pumps to fight the flood. In addition, a project's potential savings must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. Examples of projects include, but are not limited to:

- Acquisition of real property for willing sellers and demolition or relocation of buildings to convert the property to open space use
- Retrofitting structures and facilities to minimize damages from high winds, earthquake, flood, wildfire, or other natural hazards
- Elevation of flood prone structures
- Development and initial implementation of vegetative management programs
- Minor flood control projects that do not duplicate the flood prevention activities of other Federal agencies
- Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities
- Post-disaster building code related activities that support building code officials during the reconstruction process

**What are the minimum project criteria?**

There are five issues you must consider when determining the eligibility of a proposed project.

- Does your project conform to your State's Hazard Mitigation Plan?

- Does your project provide a beneficial impact on the disaster area i.e. the State?
- Does your application meet the environmental requirements?
- Does your project solve a problem independently?
- Is your project cost-effective?

## II. **PRE-DISASTER MITIGATION GRANT PROGRAM (PDM)**

### **What is the Pre-Disaster Mitigation competitive grant program?**

The Pre-Disaster Mitigation (PDM) competitive grant program provides funds to State, Tribal, and local governments for pre-disaster mitigation planning and projects primarily addressing natural hazards. Cost-Effective pre-disaster mitigation activities reduce risk to life and property from natural hazard events before a natural disaster strikes, thus reducing overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations. Funds will be awarded on a competitive basis to successful Applicants for mitigation planning and project applications intended to make local governments more resistant to the pacts of future natural disasters.

### **Who can apply for a PDM competitive grant?**

Eligible PDM competitive grant Applicants include State and Territorial emergency management agencies, or a similar office of the State, District of Columbia, U.S. Virgin Islands, Commonwealth of Puerto Rico, Guam, American Samoa, Commonwealth of the Northern Mariana Islands, and Federally-recognized Indian Tribal governments.

- ✓ Eligible Sub-applicants include State agencies; Federally-recognized Indian Tribal governments; and local governments (including State recognized Indian Tribal governments and Alaska native villages).
- ✓ Applicants can apply for PDM competitive grant funds directly to FEMA, while Sub-applicants must apply for funds through an eligible Applicant.
- ✓ Private non-profit organizations are not eligible to apply for PDM but may ask the appropriate local government to submit an application for the proposed activity on their behalf.

### **What are eligible PDM projects?**

Multi-hazard mitigation projects must primarily focus on natural hazards but also may address hazards caused by non-natural forces. **Funding is restricted to a maximum of \$3M Federal share per project.** The following are eligible mitigation projects:

- ✓ Acquisition or relocation of hazard-prone property for conversion to open space in perpetuity;
- ✓ Structural and non-structural retrofitting of existing buildings and facilities (including designs and feasibility studies when included as part of the construction project) for wildfire, seismic, wind or flood hazards (e.g., elevation, flood proofing, storm shutters, hurricane clips);
- ✓ Minor structural hazard control or protection projects that may include vegetation management, Storm water management (e.g., culverts, floodgates, retention basins), or shoreline/landslide stabilization; and,
- ✓ Localized flood control projects, such as certain ring levees and floodwall systems, that are designed specifically to protect critical facilities and that do not constitute a section of a larger flood control system.

### **Mitigation Project Requirements**

Projects should be technically feasible (see Section XII. Engineering Feasibility) and ready to implement. Engineering designs for projects must be included in the application to allow FEMA to assess the effectiveness

and feasibility of the proposed project. The project cost estimate should complement the engineering design, including all anticipated costs. FEMA has several formats that it uses in cost estimating for projects. Additionally, other Federal agencies' approaches to project cost estimating can be used as long as the method provides for a complete and accurate estimate. FEMA can provide technical assistance on engineering documentation and cost estimation (see Section XIII.D. Engineering Feasibility).

Mitigation projects also must meet the following criteria:

1. Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster, consistent with 44 CFR 206.434(c)(5) and related guidance, and have a Benefit-Cost Analysis that results in a benefit-cost ratio of 1.0 or greater (see Section X. Benefit-Cost Analysis). **Mitigation projects with a benefit-cost ratio less than 1.0 will not be considered for the PDM competitive grant program;**
2. Be in conformance with the current FEMA-approved State hazard mitigation plan;
3. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed, consistent with 44 CFR 206.434(b)(4);
4. Be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands, and 44 CFR Part 10, consistent with 44 CFR 206.434(c)(3);
5. Not duplicate benefits available from another source for the same purpose, including assistance that another Federal agency or program has the primary authority to provide (see Section VII.C. Duplication of Benefits and Programs);
6. Be located in a community that is participating in the NFIP if they have been identified through the NFIP as having a Special Flood Hazard Area (a FHBM or FIRM has been issued). In addition, the community must not be on probation, suspended or withdrawn from the NFIP; and,
7. Meet the requirements of Federal, State, and local laws.

#### **What are examples of Ineligible PDM Projects?**

The following mitigation projects are not eligible for the PDM program:

- ✓ Major flood control projects such as dikes, levees, floodwalls, seawalls, groins, jetties, dams, waterway channelization, beach nourishment or re-nourishment;
- ✓ Warning systems;
- ✓ Engineering designs that are not integral to a proposed project;
- ✓ Feasibility studies that are not integral to a proposed project;
- ✓ Drainage studies that are not integral to a proposed project;
- ✓ Generators that are not integral to a proposed project;
- ✓ Phased or partial projects;
- ✓ Flood studies or flood mapping; and,
- ✓ Response and communication equipment.

# CHAPTER 11. CITY OF MARTINEZ ANNEX

## 11.1 HAZARD MITIGATION PLAN POINT OF CONTACT

### Primary Point of Contact

Tim Tucker, City Engineer  
525 Henrietta Street  
Martinez, CA 94553  
Telephone: 925-372-3562  
e-mail Address: ttucker@cityofmartinez.org

### Alternate Point of Contact

Eric Ghisletta, Commander  
Telephone: 925-372-3447  
e-mail Address: eghisletta@cityofmartinez.org

## 11.2 JURISDICTION PROFILE

The following is a summary of key information about the jurisdiction and its history:

- **Date of Incorporation**—1876
- **Current Population**—36,348
- **Location and Description**—Martinez is generally carved into rolling hills. The developed area ranges in elevation from sea level at the marina to approximately 500 feet above sea level at the southwest portion of town. Martinez is bordered to the west by East Bay Regional Park Land open space. The City of Pleasant Hill borders the town to the south and southwest. Shell Refinery property borders the town to the east from Pacheco Boulevard to the shoreline. The city is bisected by State Route 4. Two major rail lines (BNSF Railway and Union Pacific) with accompanying fuel lines also bisect the city. BNSF Railway runs through the central portion of the city, surrounded primarily by residential development; Union Pacific primarily runs parallel to the shoreline along the northern border of the downtown business district.
- **Brief History**—Incorporated in 1876, Martinez is the county seat of Contra Costa County. It is located along the Sacramento and San Joaquin Rivers in the central part of the county. The City's roots can be traced to the late 1840s, when it served as a ferryboat transit point across the Carquinez straits on the way to the gold fields. By the time of its incorporation, Martinez had evolved into one of the area's most significant trading posts and shipping ports. Today, the City covers 12.5 square miles and has approximately 36,700 residents. As one of California's first towns, Martinez retains a strong sense of history and family. The renowned naturalist John Muir made Martinez his home for nearly a quarter of a century and in 1915, the year after Muir's passing, baseball star Joe DiMaggio was born here. Many of the downtown shops retain their early 20th century look and charm, and some homes date back more than 125 years.

Martinez has modernized both its infrastructure and its downtown. The City opened an award-winning Intermodal Facility in 2001 that has become a popular stop along the Amtrak line. It also completed a major restoration of Alhambra Creek that beautifies the downtown and controls flooding, and has embarked on a program to make Martinez a cultural-historical attraction as the home of the John Muir Festival Center. An outdoor amphitheater is the first realization of this long-term program.

- **Governing Body Format**—Martinez is governed by an elected Mayor and City Council. The City is run through a City Manager office. Current departments are Police Services, Finance, Administrative Services, City Attorney (contracted), Public Works (building and maintenance), and Community and Economic Development (engineering, planning, recreation and economic development).

The City operates a water system managed through the Public Works Department. The water system serves approximately 10,000 customers, including unincorporated Alhambra Valley and the Mountain View area and a small portion of Pleasant Hill. Contra Costa Water District provides potable water to a southwestern portion of the City.

Sanitary services are provided by two independent districts. Central Contra Costa Sanitary District serves the western and southwestern portion of Martinez. Sewage primarily flows via a gravity system to a pump station near the shoreline at the west end of town. Sewage is then pumped to the District's treatment facility in north Concord. Mt. View Sanitary District serves the eastern and southeastern portion of Martinez. Its system flows via a gravity system to a pump station east of Morello Avenue adjacent to the BNSF Railway right of way. Sewage is then pumped to a treatment plant on the west side of I-680 north of Pacheco Boulevard.

Fire service is provided by Contra Costa County Fire Protection District, which staffs several fire stations in and around Martinez. Development plans for commercial and residential subdivisions are routed to the fire district for review. The District also provides routine and new construction inspections.

The Contra Costa County Flood and Conservation District does not have jurisdiction or own or operate flood control improvements within the City. The City has adopted many of the flood district's standards. The Public Works Director is the City's floodplain manager. He implements FEMA flood protection requirements.

### **11.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY**

Table 11-1 lists all past occurrences of natural hazards within the jurisdiction. The City has no properties identified by FEMA as repetitive flood loss properties.

### **11.4 HAZARD RISK RANKING**

Table 11-2 presents the ranking of the hazards of concern.

### **11.5 CAPABILITY ASSESSMENT**

The assessment of the jurisdiction's legal and regulatory capabilities is presented in Table 11-3. The assessment of the jurisdiction's administrative and technical capabilities is presented in Table 11-4. The assessment of the jurisdiction's fiscal capabilities is presented in Table 11-5. Classifications under various community mitigation programs are presented in Table 11-6.

### **11.6 HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED INITIATIVES**

Table 11-7 lists the initiatives that make up the jurisdiction's hazard mitigation plan. Table 11-8 identifies the priority for each initiative. Table 11-9 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

### 11.7 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps have been generated for the City of Martinez and are included at the end of this chapter. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

Type of Event	Date	Preliminary Damage Assessment
Fire	September 6, 2009	\$1,500,000
Wild Fire	July 10, 2008	Information not available
Winter Weather	January 2007	
Flood	December 31, 2005/January 1, 2006	
Wild Fire	June 26, 2004	\$800,000
Flood	February 2000	
Flood	February 1998	
Flood	December 1997	
Flood	January 1995	
Flood	January 1994	
Flood	November/December 1993	
Earthquake	October 18, 1989	
Freeze	December 1988	
Flood	February 1986	
Flood	January 1982	
Flood	January 1980	

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Earthquake	57
2	Severe Weather	45
3	Flood	36
4	Drought	28
5	Wild Fire	12
6	Landslide	12
7	Dam Failure	12

**TABLE 11-3.  
LEGAL AND REGULATORY CAPABILITY**

	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
<b>Codes, Ordinances &amp; Requirements</b>					
Building Code	Y	N	N	Y	2007 (CBC)
Zoning Code	Y	N	N	N	Title 22 MMC
Subdivisions	Y	N	N	Y	Title 21 MMC
Post Disaster Recovery	Y	N	N	N	
Real Estate Disclosure	N	N	Y	Y	CA Code 1102 requires disclosure on natural hazard exposure for sale of all real property
Growth Management	Y	N	Y	N	CCTA
Site Plan Review	Y	Y	N	N	
Special Purpose (flood management, critical areas)	Y	N	N	N	
<b>Planning Documents</b>					
General or Comprehensive Plan	N	N	Y	Y	
Floodplain or Basin Plan	Y	Y	Y	Y	FEMA, CA Water Resource Board, Basin Plan
Stormwater Plan	Y	Y	Y	Y	CA Water Resource Board, Basin Plan
Capital Improvement Plan	Y	N	N	N	5-Year CIP Required by CCTA
Habitat Conservation Plan	N	Y	Y	N	
Economic Development Plan	Y	N	N	N	
Emergency Response Plan	Y	N	N	N	
Shoreline Management Plan	N	Y	Y	Y	
Post Disaster Recovery Plan	Y	N	N	N	

TABLE 11-4. ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Y	Community and Economic Development Dept. (CEDD)
Engineers or professionals trained in building or infrastructure construction practices	Y	CEDD
Planners or engineers with an understanding of natural hazards	Y	CEDD
Staff with training in benefit/cost analysis	Y	CEDD, Engineering Division
Floodplain manager	Y	Public Works Dept., Building Division
Surveyors	N	
Personnel skilled or trained in GIS applications	Y	CEDD
Scientist familiar with natural hazards in local area	N	
Emergency manager	Y	Police/City Manager
Grant writers	N	

TABLE 11-5. FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes (Voter approval, Prop 218 regulated)
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes (Voter approval, Prop 218 regulated)
Incur Debt through Private Activity Bonds	Unknown
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Unknown
Development Impact Fees for Homebuyers or Developers	Yes
Other	FEMA Sponsored Grant

	Participating?	Classification	Date Classified
Community Rating System	—	—	—
Building Code Effectiveness Grading Schedule	—	—	—
Public Protection	—	—	—
Storm Ready	—	—	—
Firewise	—	—	—
Tsunami Ready	—	—	—

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
<b>Initiative #M-1— Raise public awareness about regional hazard</b>						
Both	Multi-Hazard	3, 6, 7, 16	City	\$10,000	Grants/Gen Rev	Initiate 2011 ongoing
<b>Initiative #M-2— Promote the use of NOAA “All Hazards” radios for early warning and post-event information</b>						
Both	Multi-Hazard	2, 8	City	\$500	General Revenue	Initiate 2011 ongoing
<b>Initiative #M-3— Maintain Political support for Hazard Mitigation and Response Programs.</b>						
Both	Multi-Hazard	6, 12	City			
<b>Initiative #M-4— Establish and continue partnerships between public and private sectors including CERT</b>						
Existing	Multi-Hazard	3, 6, 0-16	City	\$10,000	General Revenue	Ongoing
<b>Initiative #M-5— Maintain the viability of all critical facilities and operations.</b>						
Existing	Multi-Hazard	2, 6, 7, 11, 12, 0-15	City	Unknown	Grants/Gen Rev	As funding becomes available
<b>Initiative #M-6— Promote water conservation programs</b>						
Both	Drought	3, 6, 16	City-CCWD	\$10,000	Water surplus fund	Ongoing
<b>Initiative #M-7— Develop reclaimed water sources</b>						
Both	Drought	1, 8, 10	City-CCWD-Mt. View San	Unknown	Water surplus fund	As funding becomes available

<p align="center"><b>TABLE 11-7 (continued). HAZARD MITIGATION ACTION PLAN MATRIX</b></p>						
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
<b>Initiative #M-8— Utilize native planting on City owned facilities</b>						
Existing	Drought	1, 4	City	unknown	Park Bond – Gen Rev	As park bond projects are completed
<b>Initiative #M-9— Reduce water system losses</b>						
Existing	Drought	1, 7	City	\$300,000	Water surplus fund	Ongoing
<b>Initiative #M-10— Continue to Participate in National Flood Insurance Program</b>						
Both	Flood	1, 9	City	none	N/A	Ongoing
<b>Initiative #M-11— Participate in Community Rating System (CRS) and investigate possibility of increasing rating to reduce flood insurance rates</b>						
Both	Flood	1, 9, 10	City	\$5,000	NPDES Assessment	2011
<b>Initiative #M-12— Mitigate potential increased run-off from new development</b>						
New	Flood	1, 3, 4, 5, 6, 7, 10, 11, 12	City	N/A	Developer	Ongoing
<b>Initiative #M-13— Install Alhambra Creek By-pass pipe</b>						
	Flood	1, 4, 5, 7, 10, 15	City	\$20 million	Grants	As funds become available
<b>Initiative #M-14— Clear drainage facilities prior to rainy season</b>						
	Flood	1, 6, 8	City	\$20,000	NPDES Assessment	Ongoing
<b>Initiative #M-15— Formalize/advertise advance flood warning predictions</b>						
Existing	Flood	2, 3, 6	City/CC Flood Cont Dist	none	N/A	Ongoing
<b>Initiative #M-16— Promote creek clean-up</b>						
Existing	Flood	3, 4, 6, 8, 12	City	\$4,000	NPDES Assessment	Ongoing
<b>Initiative #M-17— Participate in Clean Water Program (NPDES)</b>						
Both	Flood	3, 4, 6, 16	City	\$500,000	NPDES Assessment	Ongoing

**TABLE 11-7 (continued).  
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
<b>Initiative #M-18—Adopt International Building Code once ratified by the State</b>						
New	Earthquake	1, 3, 6, 7	City	none	N/A	unknown
<b>Initiative #M-19—Investigate funding for retrofit of URM buildings downtown</b>						
Existing	Earthquake	1, 3, 4, 5, 7, 11, 15	City	unknown	Grants	Ongoing
<b>Initiative #M-20—Evaluate Critical Facilities and retrofit as needed</b>						
Existing	Earthquake	1, 3, 4, 5, 7, 15	City	unknown	Grants	As funding becomes available
<b>Initiative #M-21—Train staff on HAZUS</b>						
	Earthquake	6, 8	City	\$2,000	General Revenues	2012
<b>Initiative #M-22—Encourage purchase of earthquake insurance</b>						
Both	Earthquake	2, 13	City	none	N/A	Ongoing
<b>Initiative #M-23—Integrate landslide hazard maps into GIS</b>						
Both	Landslide	3, 6, 8, 16	City	\$5,000	General Revenues-grants	2011
<b>Initiative #M-24—Review/adopt regulations prohibiting development in high risk landslide hazard zones</b>						
New	Landslide	1, 4, 5, 7, 11, 14	City	\$5,000	General Revenues	2012
<b>Initiative #M-25—Bury utility cables in new developments, business zones and major transportation routes</b>						
Both	Severe Weather	4, 5, 7, 8, 11	City	Unknown	PG&E Rule 20, Gas Tax, Developer	As funds become available
<b>Initiative #M-26—Develop and maintain emergency access</b>						
Both	Wildfire	1, 2, 5, 11, 12, 13, 16	City/CC Fire	\$5,000	Gas tax	Ongoing
<b>Initiative #M-27—Clear fuels in City Open Space in accordance with CC fire requirements</b>						
N/a	Wildfire	1, 2, 5, 11, 12, 13, 16	City	\$12,000	General Revenues	Ongoing
<b>Initiative #M-28—Require private property owners to create defensible space around structures</b>						
Existing	Wildfire	1, 2, 3, 5, 11, 13, 16	CC Fire	unknown	Tax	Ongoing

**TABLE 11-8.  
MITIGATION STRATEGY PRIORITY SCHEDULE**

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority <sup>a</sup>
1	4	Medium	Medium	Yes	Yes	Yes	High
2	2	Medium	Low	Yes	Yes	Yes	Med.
3	2	Medium	Low	Yes	No	No	Med.
4	3	High	Low	Yes	No	Yes	High
5	6	High	High	Yes	Yes	No	Med.
6	3	High	Medium	Yes	No	Yes	High
7	3	High	High	Yes	No	No	Low
8	2	Low	Low	Yes	No	Yes	Med.
9	2	High	High	Yes	No	Yes	Med.
10	2	High	Low	Yes	No	Yes	High
11	3	High	Medium	Yes	No	No	Med.
12	9	Medium	Low	Yes	No	Yes	High
13	6	High	High	Yes	Yes	Yes	High
14	3	High	High	Yes	Yes	No	Med.
15	3	High	Low	Yes	No	Yes	High
16	5	High	Low	Yes	No	Yes	High
17	4	Medium	High	No	No	Yes	Mandated
18	6	High	Low	Yes	No	Yes	Med.
19	7	High	Medium	Yes	No	No	High
20	6	Medium	High	No	Yes	No	Med.
21	2	Medium	Low	Yes	No	Yes	Med.
22	2	Medium	Low	Yes	No	Yes	Low
23	4	Low	Low	Yes	No	No	Low
24	6	High	Low	Yes	No	No	Med.
25	5	Medium	High	No	No	Yes	Med.
26	7	Medium	Medium	Yes	No	No	Low
27	7	High	Medium	Yes	No	Yes	High
28	7	High	Low	Yes	No	Yes	High

a. Explanation of priorities

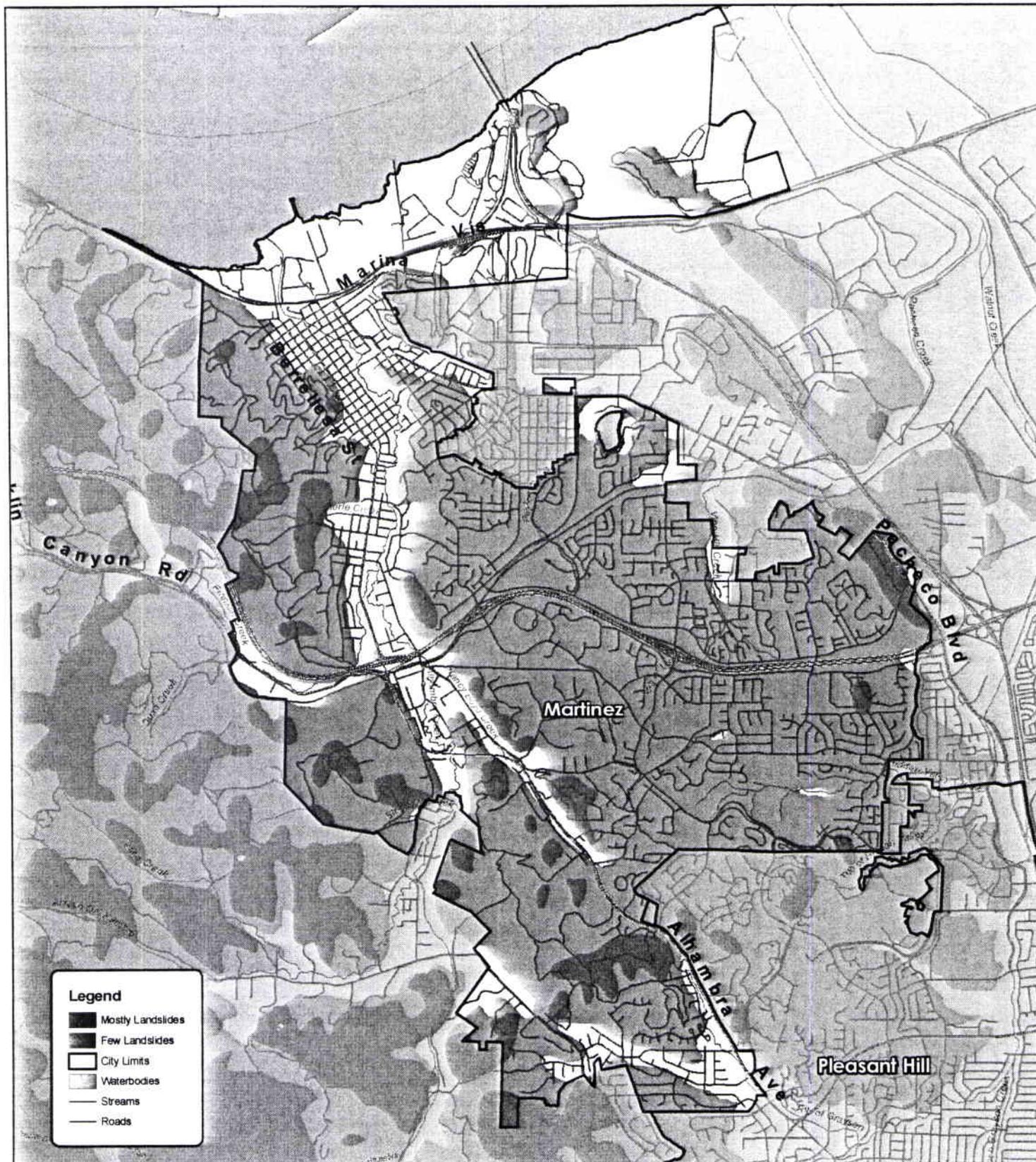
- High Priority: Project meets multiple plan objectives, benefits exceed cost, funding is secured under existing programs, or is grant eligible, and project can be completed in 1 to 5 years (i.e., short term project) once funded.
- Medium Priority: Project meets at least 1 plan objective, benefits exceed costs, requires special funding authorization under existing programs, grant eligibility is questionable, and project can be completed in 1 to 5 years once funded.
- Low Priority: Project will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and time line for completion is long term (5 to 10 years).

**TABLE 11-9.  
ANALYSIS OF MITIGATION INITIATIVES**

Hazard Type	Initiative Addressing Hazard, by Mitigation Type					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Drought	1, 2, 3, 6, 7, 8, 9	1, 6, 7	1, 3, 5, 6, 7, 9	1, 8, 27	1, 2, 5	1
Earthquake	1, 18, 19	1, 18, 19	1, 2, 3, 4, 5, 18, 19, 22	1	1, 2, 20	1, 2
Flood	1, 2, 12, 13, 14	1, 14, 16, 13	1, 2, 3, 4, 5, 10, 12, 14, 15, 16	1, 11, 16, 17	1, 2, 3, 4, 5	1, 13, 14, 16
Landslide	1, 19, 20, 23	1	1, 2, 4, 5, 19, 20, 23	1, 13, 14	1, 2, 3, 4, 5	1, 13, 14
Severe Weather	1, 18, 19, 26, 27, 28	1, 26, 28	1, 2, 3, 4, 5, 18, 19, 26, 28	1, 26, 28	1, 2, 3, 4, 5, 26	1
Tsunami	N/A	N/A	N/A	N/A	N/A	N/A
Wild Fire	1, 18, 19, 26, 27, 28	1, 26, 27, 28	1, 2, 3, 4, 5, 18, 19, 26, 27, 28	1, 26, 27, 28	1, 2, 3, 4, 5, 26, 27, 28	1

Notes:

1. Prevention: Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
2. Property Protection: Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
3. Public Education and Awareness: Actions to inform citizens and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
4. Natural Resource Protection: Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
5. Emergency Services: Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
6. Structural Projects: Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.



**Legend**

- Mostly Landslides
- Few Landslides
- City Limits
- Waterbodies
- Streams
- Roads

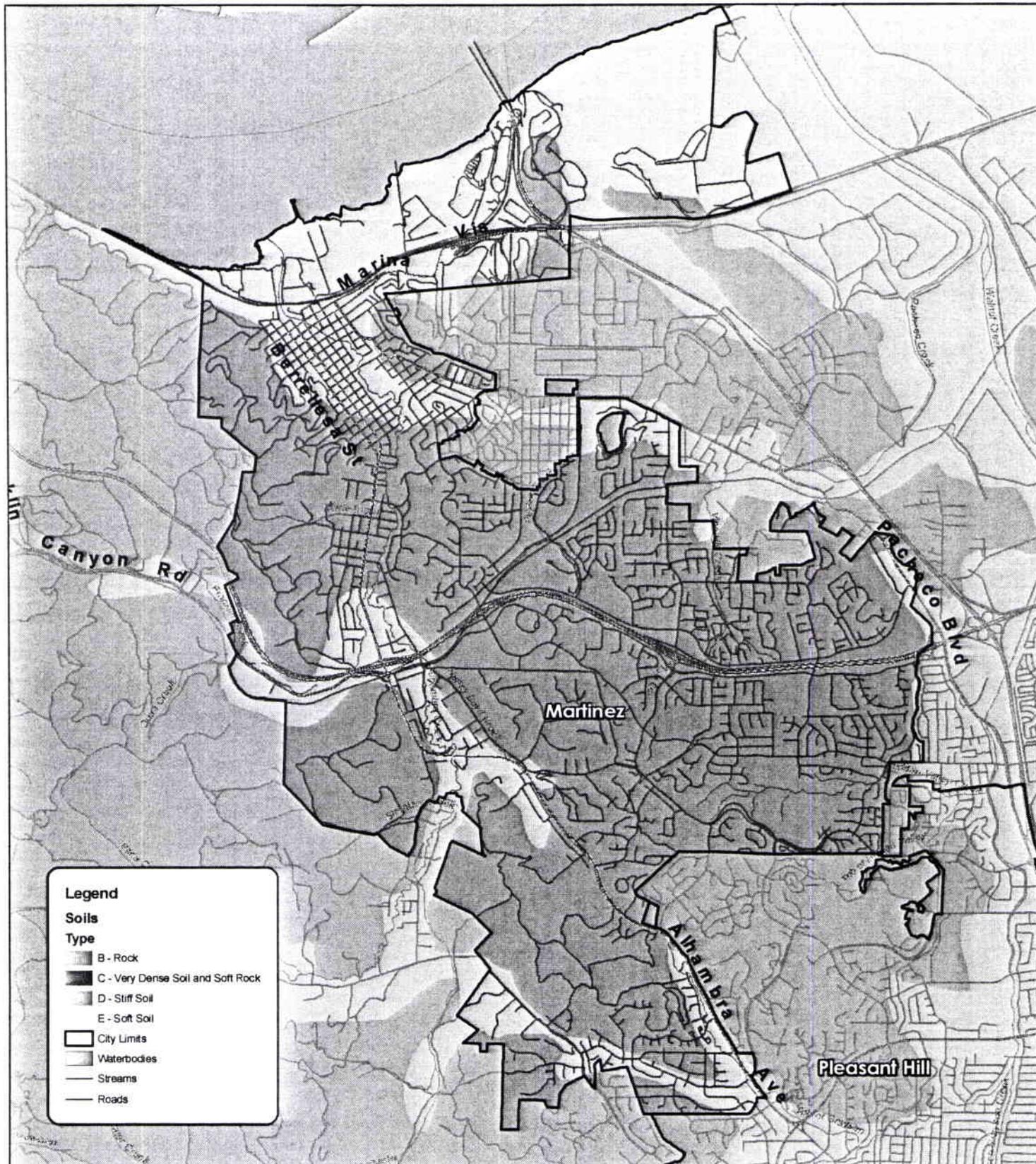
# City of Martinez

USGS Landslide Hazard Areas



**Few Landslides:** contains few, if any, large mapped landslides, but locally contains scattered small landslides and questionably identified larger landslides.

**Mostly Landslides:** consists of mapped landslides, intervening areas typically narrower than 1500 feet, and narrow borders around landslides.



**Legend**

**Soils**

**Type**

- B - Rock
- C - Very Dense Soil and Soft Rock
- D - Stiff Soil
- E - Soft Soil
- City Limits
- Waterbodies
- Streams
- Roads

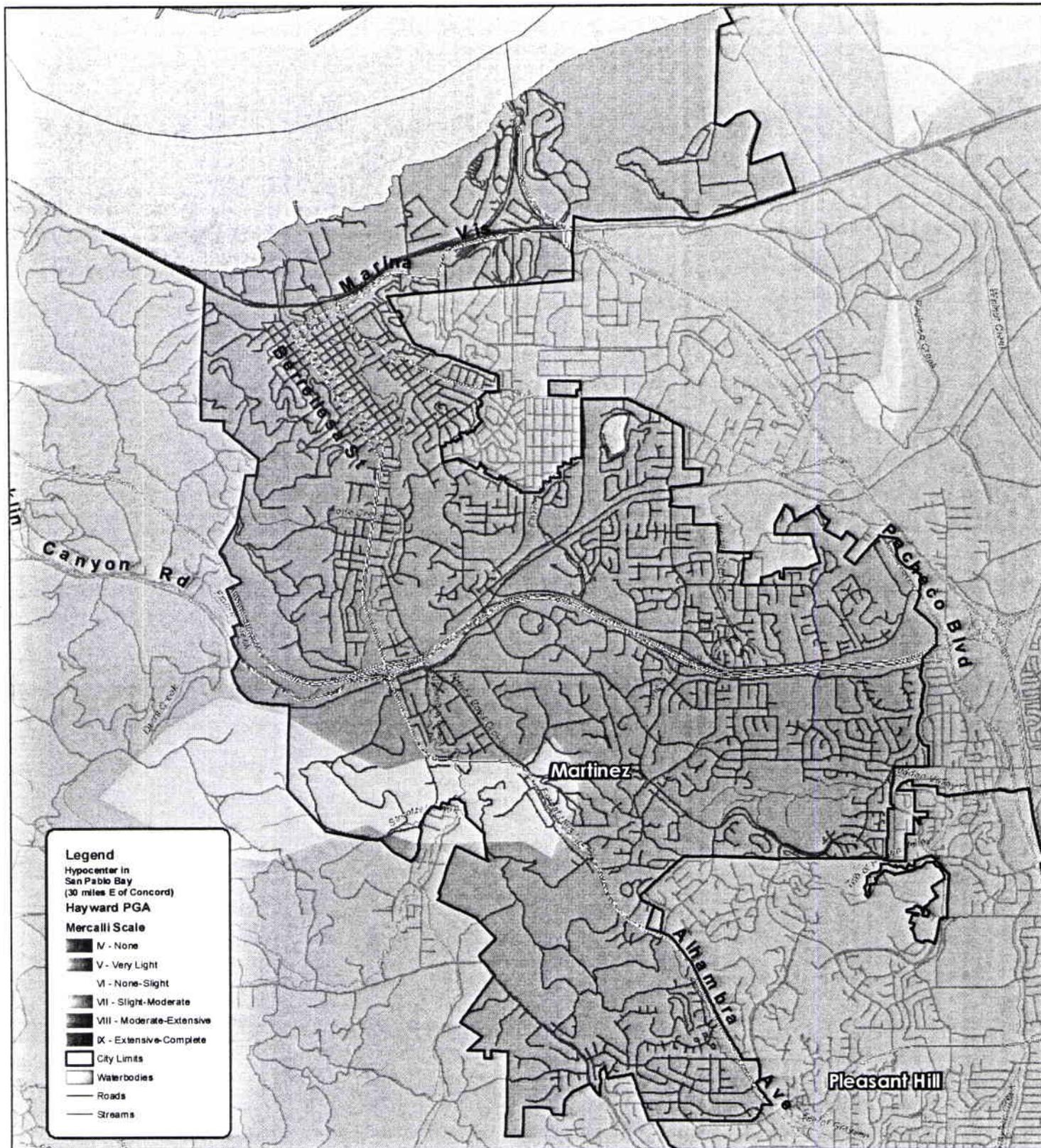
# City of Martinez

NEHRP (National Earthquake Hazards Reduction Program)  
Soils



Source Contra Costa County GIS & NEHRP  
Map Created By Terra Tech on July 27th 2009  
Projection: NAD\_1983\_StatePlane\_California\_III\_FIPS\_1403\_Feet





**Legend**  
 Hypocenter in San Pablo Bay (30 miles E of Concord)  
 Hayward PGA  
**Mercalli Scale**  
 I - None  
 V - Very Light  
 VI - None-Slight  
 VII - Slight-Moderate  
 VIII - Moderate-Extensive  
 IX - Extensive-Complete  
 City Limits  
 Waterbodies  
 Roads  
 Streams

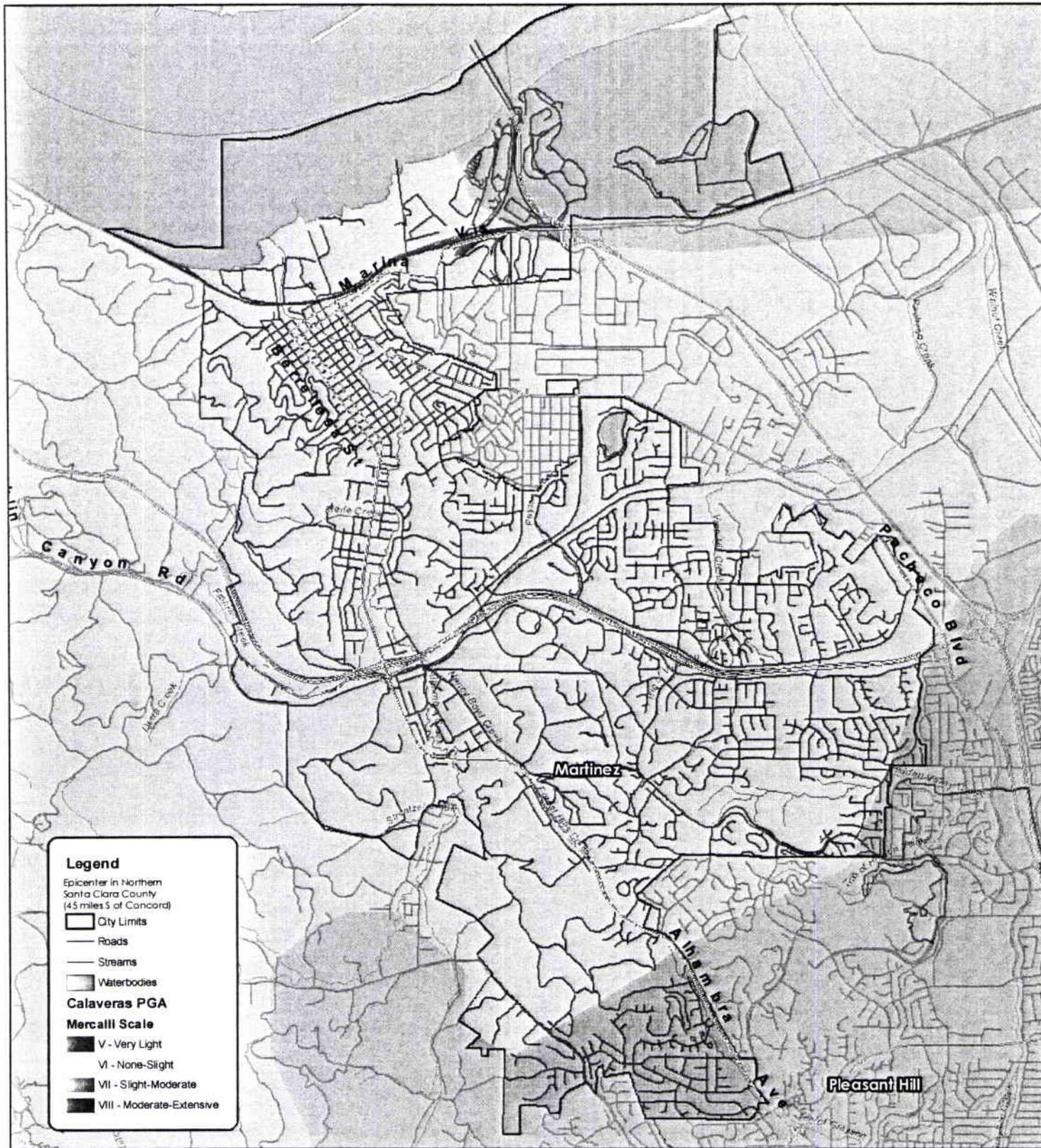
# City of Martinez

## Northern Hayward Earthquake 2008 USGS Fault Scenario Peak Ground Acceleration Mercalli Scale

A 7.05 magnitude earthquake with a hypocenter located in San Pablo Bay



- VI Felt by all; many run outside. Some heavy furniture moved.
- VII Everyone runs outside. No damage in well-built buildings; moderate damage in ordinary structures; considerable damage in poorly constructed buildings.
- VIII - Considerable damage except in specially constructed buildings. Disturbs people driving cars.
- IX - Damage even in specially designed structures. Buildings shifted from foundations; ground cracked; underground pipes broken.



**Legend**

Epicenter in Northern Santa Clara County (45 miles S of Concord)

- City Limits
- Roads
- Streams
- Waterbodies

**Calaveras PGA**

**Mercalli Scale**

- V - Very Light
- VI - None-Slight
- VII - Slight-Moderate
- VIII - Moderate-Extensive

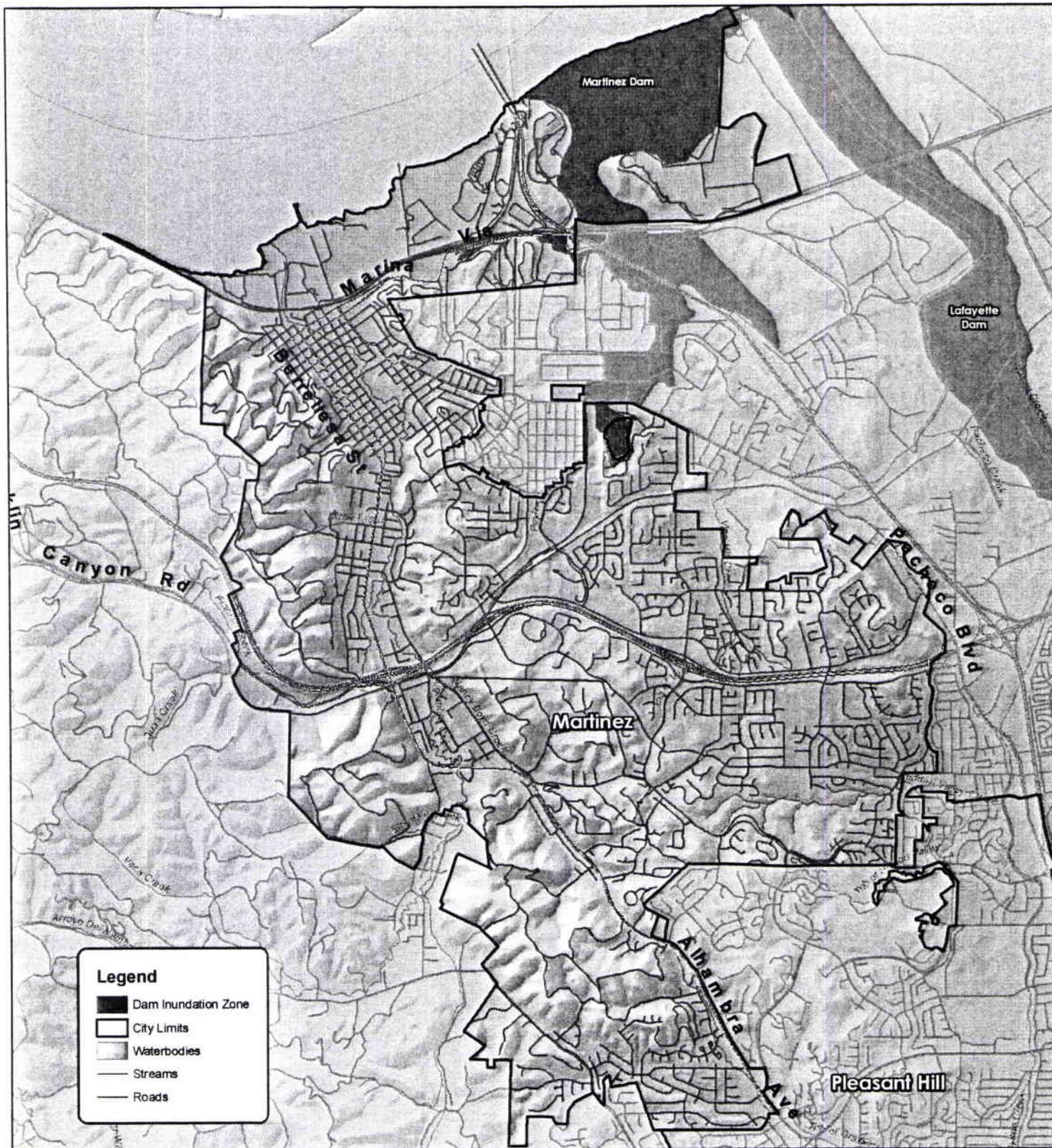
# City of Martinez

Central & Northern Calaveras  
 Earthquake 2003 USGS  
 Scenario Peak  
 Ground Acceleration  
 Mercalli Scale

A 6.9 magnitude earthquake with  
 an epicenter of N37.45 W121.81



VII - Everyone runs outside. No damage in well-built buildings; moderate damage in ordinary structures; considerable damage in poorly constructed buildings.  
 VIII - Considerable damage except in specially constructed buildings. Disturbs people driving cars.  
 IX - Damage even in specially designed structures. Buildings shifted from foundations; ground cracked; underground pipes broken.



**Legend**

- Dam Inundation Zone
- City Limits
- Waterbodies
- Streams
- Roads

# City of Martinez

Dam Inundation Zone

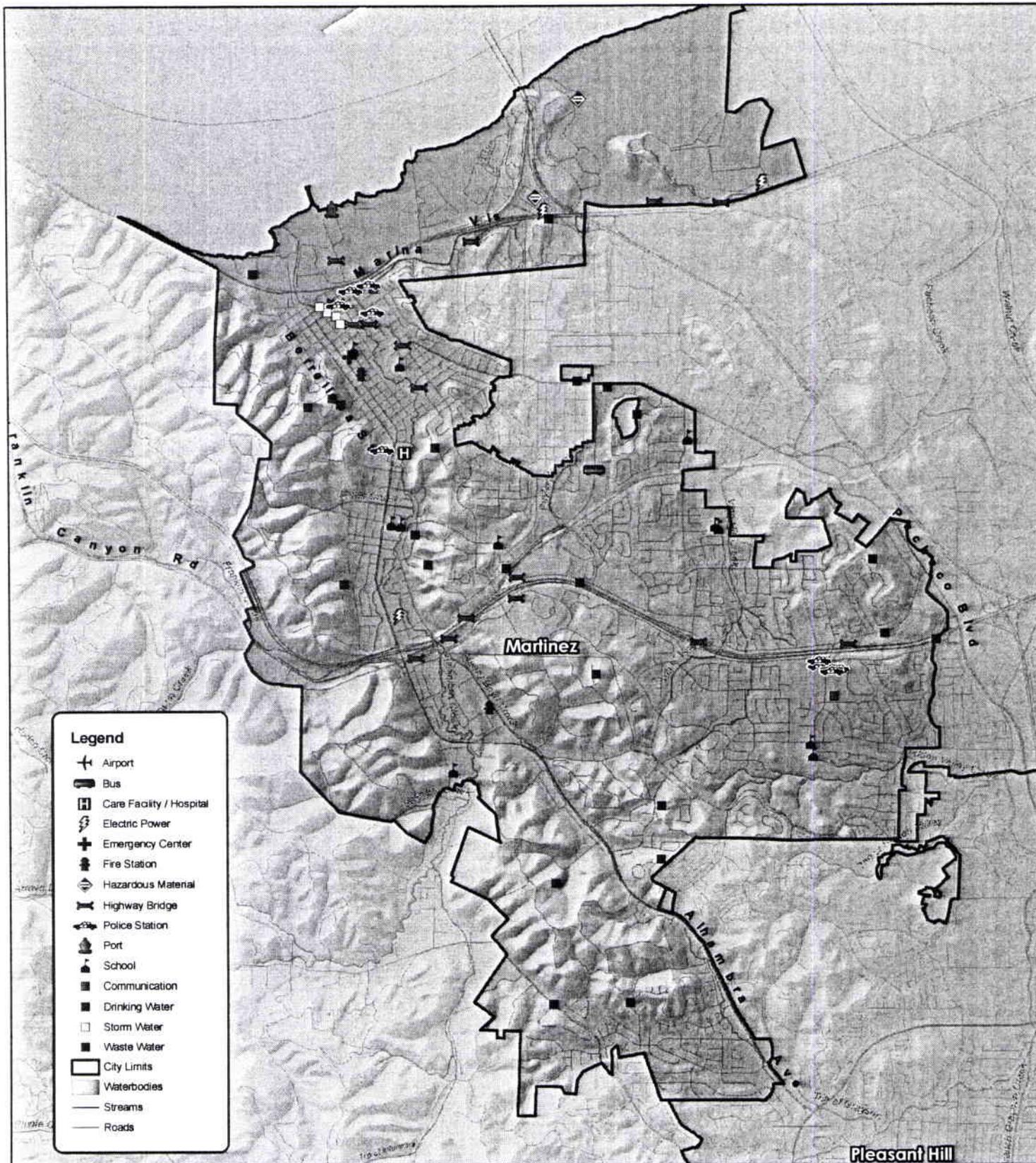


**Dam & Reservoir Facilities within Study Area:**

- |                        |                                |
|------------------------|--------------------------------|
| Antioch Dam            | Los Vaqueros Reservoir         |
| Argyle No. 2 Reservoir | Maloney Reservoir              |
| Bethany Dam            | Mans Creek Dam                 |
| Bronies Dam            | Martinez Dam                   |
| Clifton Court Forebay  | Moraga Reservoir               |
| Contra Loma Dam        | North Reservoir                |
| Carville Reservoir     | Pine Creek Dam                 |
| Deer Creek Dam         | Pine Creek Dam Detention Basin |
| Dry Creek Dam          | San Pablo Clearwell            |
| Fay Hill Reservoir     | San Pablo Dam                  |
| Lafayette Dam          | Schapiro Reservoir             |
| Lake Anza Dam          | Sobrante Clearwell             |
| Lake Orinda Dam        | Summit Reservoir               |
| Leland Reservoir       | Walnut Creek Clearwell         |

Source: Contra Costa County GIS  
 Map Created By: Tetra Tech on July 27th 2009  
 Projection: NAD\_1983\_StatePlane\_California\_III\_FIPS\_0403\_Feet





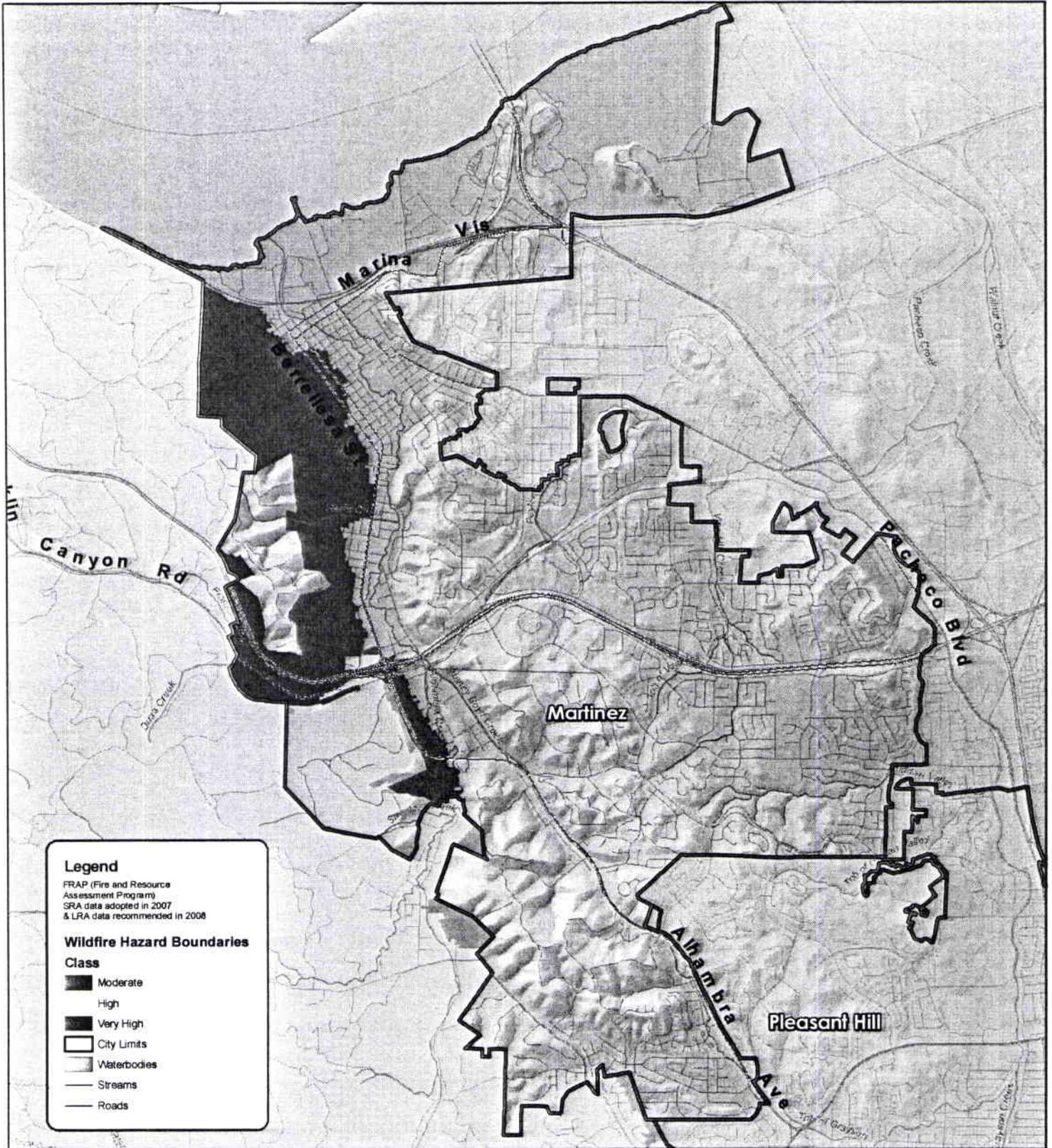
# City of Martinez

## Critical Facilities



Source Contra Costa County GIS  
 Map Created By Tetra Tech on July 27th 2009  
 Projection: NAD\_1983\_StatePlane\_California\_III\_FIPS\_0403\_Feet





**Legend**  
 FRAP (Fire and Resource Assessment Program)  
 SFA data adopted in 2007  
 & LRA data recommended in 2008

**Wildfire Hazard Boundaries Class**

- Moderate
- High
- Very High
- City Limits
- Waterbodies
- Streams
- Roads

# City of Martinez

FRAP Wildfire Hazard Boundaries



Source: Contra Costa County GIS & FRAP  
 Map Created By: Tetra Tech on July 27th 2008  
 Projection: NAD\_1983\_StatePlane\_California\_III\_FIPS\_0403 Feet

